What is claimed is:

1. A light emitting diode, comprising:

a transparent substrate;

a reflective layer located on a surface of the transparent substrate;

a solder layer on the other surface of the transparent substrate;

a semiconductor epitaxial structure located on the solder layer; and

a transparent conductive layer located on the semiconductor epitaxial structure.

2. The light emitting diode according to claim 1, wherein the material of the transparent substrate is selected from the group consisting of Al_2O_3, ZnSe, ZeO, GaP, and glass.

3. The light emitting diode according to claim 1, wherein the material of the reflective layer is a metal having high light reflectivity.

4. The light emitting diode according to claim 1, wherein the material of the solder layer is heat-resistant and has large thermal conductive coefficient.

5. The light emitting diode according to claim 1, wherein the material of the solder layer is organic material.

6. The light emitting diode according to claim 1, wherein the material of the solder layer is metal.

7. The light emitting diode according to claim 1, wherein the semiconductor epitaxial structure comprises a p-type semiconductor contact layer, a p-type semiconductor cladding layer, a multiple quantum well active layer, a n-type semiconductor cladding layer and a n-type semiconductor contact layer stacked in sequence, wherein the p-type semiconductor layer contacts the solder layer.

8. The light emitting diode according to claim 7, wherein:
the material of the p-type semiconductor contact layer is AlGaInAsP;
the material of the p-type semiconductor cladding layer is AlGaInP;
the multiple quantum well active layer comprises an AlGaInP/GaInP structure;
the material of the n-type semiconductor cladding layer is AlGaInP; and
the material of the n-type semiconductor contact layer is GaAs.

9. The light emitting diode according to claim 7, wherein the n-type semiconductor contact layer is a continuous surface structure.

10. The light emitting diode according to claim 7, wherein the n-type semiconductor contact layer is a discontinuous surface structure, and the discontinuous surface structure is selected from the group consisting of a cylinder structure and an prism structure.

11. The light emitting diode according to claim 1, wherein the material of the transparent conductive layer is selected from the group consisting of titanium (Ti), titanium oxide, titanium nitride, titanium alloy, tantalum (Ta) oxide, tantalum nitride, platinum (Pt), platinum alloy, indium tin oxide, indium oxide, tin oxide, and cadmium

tin oxide.

12. A method for manufacturing a light emitting diode, comprising:

providing a growth substrate, wherein a buffer layer and an etching stop layer stacked on the growth substrate in sequence;

forming a semiconductor epitaxial structure on the etching stop layer;

removing the growth substrate, the buffer layer and the etching stop layer;

providing a transparent substrate, wherein a surface of the transparent substrate comprises a reflective layer, and the other surface of the transparent substrate comprises a solder layer;

performing a wafer bonding step to bond the semiconductor epitaxial structure to the solder layer of the transparent substrate; and

forming a transparent conductive layer to cover the semiconductor epitaxial structure.

13. The method for manufacturing the light emitting diode according to claim 12, wherein the material of the etching stop layer is n-type AlGaInP.

14. The method for manufacturing the light emitting diode according to claim 12, wherein the semiconductor epitaxial structure comprises a p-type AlGaInAsP contact layer, a p-type AlGaInP cladding layer, an AlGaInP/GaInP multiple quantum well active layer, a n-type AlGaInP cladding layer and a n-type GaAs contact layer stacked in sequence, and the n-type GaAs contact layer contacts the etching stop layer before the step of removing the growth substrate, the buffer layer and the etching stop layer.

15. The method for manufacturing the light emitting diode according to claim 14, wherein after the wafer bonding step, the p-type AlGaInAsP contact layer contacts the solder layer.

16. The method for manufacturing the light emitting diode according to claim 14, wherein after the wafer bonding step, further comprises performing an etching step on the n-type GaAs contact layer to make the n-type GaAs contact layer form a non-planar continuous structure.

17. The method for manufacturing the light emitting diode according to claim 14, wherein after the wafer bonding step, further comprises performing an etching step on the n-type GaAs contact layer to expose a portion of the n-type AlGaInP cladding layer to make the n-type GaAs contact layer form a discontinuous surface structure.

18. The method for manufacturing the light emitting diode according to claim 12, wherein the step of forming the semiconductor epitaxial structure is performed by using a metal organic chemical vapor deposition method.

19. The method for manufacturing the light emitting diode according to claim 12, wherein material of the transparent substrate is selected from the group consisting of Al_2O_3, ZnSe, ZeO, GaP, and glass.

20. The method for manufacturing the light emitting diode according to claim 12, wherein the material of the reflective layer is a metal having high light reflectivity.

21. The method for manufacturing the light emitting diode according to claim 12, wherein the material of the solder layer is heat-resistant and has large thermal conductive coefficient.

22. The method for manufacturing the light emitting diode according to claim 12, wherein the material of the solder layer is organic material.

23. The method for manufacturing the light emitting diode according to claim 12, wherein the material of the solder layer is metal.

24. The method for manufacturing the light emitting diode according to claim 12, wherein the material of the transparent conductive layer is selected from the group consisting of titanium, titanium oxide, titanium nitride, titanium alloy, tantalum oxide, tantalum nitride, platinum, platinum alloy, indium tin oxide, indium oxide, tin oxide, and cadmium tin oxide.

25. The method for manufacturing the light emitting diode according to claim 12, wherein the step of forming the transparent conductive layer is performed by using a method selected from the group consisting of an e-gun evaporation method, a thermal evaporation method and a sputtering method.